# DSE-8: Computer Applications for Sanskrit

## Credit distribution, Eligibility and Pre-requisites of the Course

| Course title & Code | Credits | Credit distribution of the Course | | | Eligibility criteria | Prerequisite of the course |
|---|---|---|---|---|---|---|
| | | Lecture | Tutorial | Practical/ Practice | | |
| Computer Applications for Sanskrit | 04 | 3 | 1 | 0 | 12th Passed | Working Knowledge of Sanskrit |

## Learning Objectives

This course will introduce the current researches and developments in Sanskrit computing. The primary emphasis will be on tools and techniques developed under government and private funding and on exploring new technologies for Sanskrit.

## Learning outcomes

The students will get an overview of computational works undertaken in the field of Sanskrit and a clear idea about how a range of practical linguistic tasks of Sanskrit can be done by developing CL systems. And, they will also know how CL tools can facilitate the learning and teaching process in the field of Sanskrit.

## Detailed Syllabus

**Unit I** **12 hrs**

**Interactive Sanskrit Teaching Learning Tools**

Introduction to Interactive Sanskrit Learning Tools, Why Interactive Tools for Sanskrit? E-learning, Basics of Multimedia, Web-based tools development, HTML, Web page, etc., Tools and Techniques

**Unit II** **09 hrs**

**Standard for Indian Languages (Unicode)**

Unicode Typing in Devanagari Scripts, Typing Tools and Software

**Unit III** **12 hrs**

**Text Processing and Preservation Tools**

Text Processing, Preservation Techniques, Text Processing, and Preservation, Tools, and Techniques, Survey

**Unit IV** **12 hrs**

**Optical Character Reader**

Optical Character Reader (OCR), Applications of OCR for Sanskrit and Indian Languages, Tool and Techniques, Survey

## Essential/recommended readings

1. Teacher's notes, ppt, and handout
2. Bharti A., R. Sangal, V. Chaitanya, "NL, Complexity Theory and Logic" in Foundations of Software Technology and Theoretical Computer Science, Springer, 1990.
3. E-Content suggested by Teacher
4. Tools developed by Computational Linguistics Group, Department of Sanskrit, University of Delhi, Delhi-110007 available at: http://sanskrit.du.ac.in
5. Basic concept and issues of multimedia: http://www.newagepublishers.com/samplechapter/001697.pdf
6. Content creation and E-learning in Indian languages: a model: http://eprints.rclis.org/7189/1/vijayakumarjk_01.pdf
7. HTML Tutorial - W3Schools: www.w3schools.com/html
8. The Unicode Consortium: http://unicode.org/.

## Additional Resources:

## Examination scheme and mode: Subject to directions from the Examination Branch/University of Delhi from time to time